

WHAT IS CLAIMED IS:

1 1. In a data processing system, a method of asset trading comprising the steps
2 of:

3 entering a plurality of bundled trades, each of said plurality of bundled
4 trades comprising:

5 a plurality of assets to be traded;

6 a bundle size value;

7 a set of proportions of each asset of plurality of assets to be traded
8 in units of said bundle size value; and

9 one or more portfolio constraints, each of said one or more portfolio
10 constraints including:

11 a set of portfolio weights; and

12 a portfolio limit, and wherein each said portfolio constraint is
13 associated with a set of bundled trades and a market participant corresponding to
14 said set of bundled trades; and

15 matching trades among said plurality of bundled trades.

1 2. The method of claim 1 wherein said step of matching trades further
2 comprises the step of allocating an amount of each bundle to be traded among said
3 plurality of bundles.

1 3. The method of claim 2 wherein said step of matching trades to be traded
2 further comprises the steps of:
3 selecting a set of numerical values, wherein said set of numerical values has
4 a same number of members as a number of said plurality of entered bundled
5 trades, said set of numerical values forming a set of allocation values; and
6 multiplying each proportion of asset to be traded by a one of each
7 numerical value of said set of numerical values, said step of multiplying being
8 performed for each bundled trade, thereby forming a set of weighted proportions of
9 assets to be traded, said set having a number of weighted proportions equal to a
10 number of said assets to be traded.

1 **3A.** The method of claim 3 wherein said step of matching trades further
2 comprises a step of forming a set of transaction allocations, said step of forming a
3 set of transaction allocations further comprising the steps of:

4 for each portfolio constraint associated with a particular market participant,
5 forming an allocation limit, said step of forming an allocation limit associated with
6 said particular market participant comprising the steps of:

7 multiplying each said portfolio weight by said allocation value
8 corresponding to said associated trade bundle;

9 summing each product formed by said multiplying step; and

10 dividing said portfolio limit by a sum formed by said summing step;

11 selecting a smallest allocation limit from a set of allocation limits having
12 members including allocation limits corresponding to each market participant in a
13 matched trade;

14 for each bundle having a nonzero allocation value, dividing each bundle
15 size by said nonzero allocation value, thereby forming a set of allocation ratios;

16 finding a smallest allocation ratio of said set of allocation ratios;

17 selecting a smaller value of said smallest allocation ratio and said smallest
18 allocation limit, thereby forming an allocation factor; and

19 multiplying each allocation value of said set of allocation values by said
20 allocation factor, thereby forming a transaction allocation corresponding to each
21 bundled trade of said plurality of bundled trades.

4 5. The method of claim 4 further comprising the steps of:

1 2 for each said bundled trade, reducing said bundle size value by a
3 corresponding transaction allocation; and

4 5 for each portfolio limit associated with said matched trade, reducing said
6 each portfolio limit by a sum formed by summing a set of products of
7 corresponding portfolio weights multiplied by transaction volumes, said transaction
8 volumes corresponding to bundles associated with said each portfolio limit
 associated with said matched trade.

1 ⁵6. The method of claim ⁶ further comprising the step of negating each of said
2 weighted proportions of said set of weighted proportions thereby forming a set of
3 market surpluses, each market surplus of said set of market surpluses being a
4 market surplus corresponding to each of said assets to be traded.

1 ⁶7. The method of claim ⁶ further comprising the step of redistributing each
2 market surplus of said set of market surpluses.

1 ⁶8. The method of claim ⁷ wherein the step of redistributing each market
2 surplus of said set of market surpluses further comprises the steps of:

3 selecting a first set of redistribution values, said first set of redistribution
4 values including a plurality of redistribution values, wherein each value
5 corresponds with an asset to be traded, a number of said values being equal to a
6 number of assets to be traded;

7 selecting a plurality of second sets of redistribution values, said plurality of
8 second sets having a number of sets equal to a number of entered bundled trades,
9 and wherein each value in each second set corresponds with an asset to be traded,
10 a number of said values being equal to a number of assets to be traded, and
11 wherein a sum of all redistribution values, from said first set and from said
12 plurality of second sets, corresponding with each asset has a value of one;

13 multiplying each redistribution value in said first set by each market surplus
14 of its corresponding asset, thereby forming a first set of surplus redistribution
15 values;

16 multiplying each redistribution value in each second set by each market
17 surplus of its corresponding asset, thereby forming a plurality of second sets of
18 surplus redistribution values each said redistribution value corresponding to an
19 asset to be traded, and each set of said plurality of second sets of surplus
20 redistribution values corresponding with an asset bundle;

21 multiplying each surplus redistribution value in said first set of surplus
22 redistribution values by said allocation factor, thereby forming a set of first
23 transaction redistributions, said first transaction redistributions being retained by a
24 market maker;

25 multiplying each surplus redistribution value in each set of said plurality of
26 second sets of redistribution values by said allocation factor, thereby forming a
27 plurality of sets of second transaction redistributions, each of said plurality of sets
28 second transaction redistributions corresponding with an entered bundled trade; and

29 adding each second surplus redistribution value to its corresponding
30 transaction allocation in its corresponding asset bundle.

1 8^g. The method of claim 8 wherein each proportion of said set of proportions
2 of each asset to be traded includes an algebraic sign, a first algebraic sign

3 signifying an acquisition offer and a second algebraic sign signifying a disposition
4 offer, said second algebraic sign being opposite said first algebraic sign.

1 ⁹ ^δ
2 10. The method of claim \emptyset wherein the step of allocating an amount of each
3 bundle to be traded includes determining that each weighted proportion of said set
4 of weighted proportions has a value having an algebraic sign not equal to said first
algebraic sign.

1 ¹⁰ ^δ
2 11. The method of claim \emptyset wherein said step of allocating an amount of each
3 bundle to be traded includes an optimization step.

1 ¹¹ ¹⁰
2 12. The method of claim \emptyset wherein said optimization step further comprises
3 the step of solving a linear programming problem, wherein an objective function,

4 $\sum_{i=1}^m c_i \mu_i$, is extremized subject to a set of constraints, wherein m is a number of
5 assets to be traded, is said market surplus, corresponding to asset number " i " ,

6 $\sum_{j=1}^n z_{ij} x_j \quad \forall i \in \{1, \dots, m\}$, wherein said z_{ij} are said
7 set of proportions of each asset to be traded, a number " j " corresponding to bundle
trade number of said plurality of bundle trades, said z_{ij} corresponding to acquisition

8 offers having a first algebraic sign, σ_1 , and disposition offers having a second
 9 algebraic sign, σ_2 , opposite said first algebraic sign, $\sigma_2 = -\sigma_1$, said set of
 10 constraints comprising:

$$\begin{aligned} sgn\{\mu_i\} \neq \sigma_2, \quad \forall i \in \{1, \dots, m\}, \text{ and} \\ 0 \leq x_j \leq u_j, \quad \forall j \in \{1, \dots, n\} \end{aligned}$$

11 wherein said *sgn* function extracts an algebraic sign of its argument and returns
 12 zero if its argument is zero, and n is a number of entered bundled trades in a data
 13 processing system using said method of asset trading, and wherein said x are given
 14 by a solution of said linear programming problem, each said x_j being an allocation
 15 value corresponding to bundle trade number " j ", said u_j being a bundle size
 16 corresponding to bundle trade number " j ", and wherein said c_i are preselected
 17 constants.

1 12 13. The method of claim 14 wherein said optimization step further comprises
 2 the step of solving a linear programming problem, wherein an objective function,

To 600 3 $\sum_{i=1}^m c_i \mu_i$, is extremized subject to a set of constraints, wherein m is a number of

4 assets to be traded, , is said market surplus, corresponding to asset number " i " ,

To 601 5 said market surplus being, $-\sum_{j=1}^n z_{ij}x_j \quad \forall i \in \{1, \dots, m\}$, wherein said z_{ij} are said

6 set of proportions of each asset to be traded, a number "j" corresponding to bundle
7 trade number of said plurality of bundle trades, said z_{ij} corresponding to acquisition
8 offers having a first algebraic sign, σ_1 , and disposition offers having a second
9 algebraic sign, σ_2 , opposite said first algebraic sign, $\sigma_2 = -\sigma_1$, said set of
10 constraints comprising:

sgn{ μ_i } ≠ σ_2 , ∀ $i \in \{1, \dots, m\}$,
10 ∑_{j=1}ⁿ $x_j \leq 1$, and
 $x_j \geq 0$, ∀ $j \in \{1, \dots, n\}$,

11 wherein said sgn function extracts an algebraic sign of its argument and returns
12 zero if its argument is zero, and n is a number of entered bundled trades in a data
13 processing system using said method of asset trading, and wherein said x_j are given
14 by a solution of said linear programming problem, each said x_j being an allocation
15 value corresponding to bundle trade number "j", said u_j being a bundle size
16 corresponding to bundle trade number "j", and wherein said c_i are preselected
17 constants.

1 14. The method of claim 1 wherein ~~said step of entering bundled trades~~
2 includes entering bundled trades using distributed processing over a network.
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1 15. The method of claim 1 wherein the step of matching bundled trades further
2 comprises the step of reporting matched trades using distributed processing over a
3 network.

1 16. The method of claim 1 wherein the step of entering bundled trades includes
2 executing an asynchronous thread for entering bundled trades.

1 17. The method of claim 1 wherein the step of matching bundled trades
2 includes executing an asynchronous thread for matching bundled trades.

1 18. The method of claim 1 wherein said step of matching trades further
2 comprises a step of forming a set of transaction allocations, said step of forming a
3 set of transaction allocations further comprising the steps of:

4 for each bundle having a nonzero allocation value, dividing each bundle
5 size by said nonzero allocation value, thereby forming a set of allocation ratios;

6 finding a smallest allocation ratio of said set of allocation ratios; and

7 multiplying each allocation value of said set of allocation values by said
8 smallest allocation ratio, thereby forming a transaction allocation corresponding to
9 each bundled trade of said plurality of bundled trades.

1 19. The method of claim 18 further comprising the step of negating each of
2 said weighted proportions of said set of weighted proportions thereby forming a set

3 of market surpluses, each market surplus of said set of market surpluses being a
4 market surplus corresponding to each of said assets to be traded.

1 ¹⁹
2 ¹⁸ 20. The method of claim 19 further comprising the step of redistributing each
2 market surplus of said set of market surpluses.

1 ¹⁹
2 ²⁰ 21. The method of claim 20 wherein the step of redistributing each market
2 surplus of said set of market surpluses further comprises the steps of:

3 selecting a first set of redistribution values, said first set of redistribution
4 values including a plurality of redistribution values, wherein each value
5 corresponds with an asset to be traded, a number of said values being equal to a
6 number of assets to be traded;

7 selecting a plurality of second sets of redistribution values, said plurality of
8 second sets having a number of sets equal to a number of entered bundled trades,
9 and wherein each value in each second set corresponds with an asset to be traded,
10 a number of said values being equal to a number of assets to be traded, and
11 wherein a sum of all redistribution values, from said first set and from said
12 plurality of second sets, corresponding with each asset has a value of one;

13 multiplying each redistribution value in said first set by each market surplus
14 of its corresponding asset, thereby forming a first set of surplus redistribution
15 values;

16 multiplying each redistribution value in each second set by each market
17 surplus of its corresponding asset, thereby forming a plurality of second sets of
18 surplus redistribution values each said redistribution value corresponding to an
19 asset to be traded, and each set of said plurality of second sets of surplus
20 redistribution values corresponding with an asset bundle;

21 multiplying each surplus redistribution value in said first set of surplus
22 redistribution values by said smallest allocation ratio, thereby forming a set of first
23 transaction redistributions, said first transaction redistributions being retained by a
24 market maker;

25 multiplying each surplus redistribution value in each set of said plurality of
26 second sets of redistribution values by said smallest allocation ratio, thereby
27 forming a plurality of sets of second transaction redistributions, each of said
28 plurality of sets second transaction redistributions corresponding with an entered
29 bundled trade; and

30 adding each second surplus redistribution value to its corresponding
31 transaction allocation in its corresponding asset bundle.

1 22. The method of claim 20 wherein said step of allocating an amount of each
2 bundle to be traded includes an optimization step.
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1 23. The method of claim 22 wherein said optimization step further comprises
 2 the step of solving a linear programming problem, wherein an objective function,

T0650 3 $\sum_{i=1}^m c_i \mu_i$, is extremized subject to a set of constraints, wherein m is a number of
 4 assets to be traded, is said market surplus, corresponding to asset number "i" ,
 5 said market surplus being, $-\sum_{j=1}^n z_{ij}x_j \quad \forall i \in \{1, \dots, m\}$, f wherein said z_{ij} are said

6 set of proportions of each asset to be traded, a number "j" corresponding to bundle
 7 trade number of said plurality of bundle trades, said z_{ij} corresponding to acquisition
 8 offers having a first algebraic sign, σ_1 , and disposition offers having a second
 9 algebraic sign, σ_2 , opposite said first algebraic sign, $\sigma_2 = -\sigma_1$, said set of
 10 constraints comprising:

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$$\begin{aligned} sgn\{\mu_i\} &\neq \sigma_2, \quad \forall i \in \{1, \dots, m\}, \\ 0 \leq x_j &\leq u_j, \quad \forall j \in \{1, \dots, n\} \text{ and} \end{aligned}$$

$$\sum_{j \in T_k} a_{kj} x_j \leq b_k, \quad \forall k \in \{1, \dots, p\},$$

11 wherein said *sgn* function extracts an algebraic sign of its argument and returns
 12 zero if its argument is zero, and n is a number of entered bundled trades in a data

13 processing system using said method of asset trading, and wherein said x are given
14 by a solution of said linear programming problem, each said x_j being an allocation
15 value corresponding to bundle trade number " j ", said u_j being a bundle size
16 corresponding to bundle trade number " j ", wherein said c_i are preselected constants,
17 and wherein a_{kj} is a portfolio weight corresponding to bundle number " j " associated
18 with portfolio constraint number " k ", said plurality of constraints having p number
19 of constraints, and wherein j indexes bundles corresponding to constraint number
20 " k ", $j \in T_k$, where T_k is set of bundles associated with constraint number " k ", and b_k
21 is a portfolio limit associated with constraint number " k ".

24. The method of claim 1 wherein said step of matching trades includes a step
2 of optimization.

25. The method of claim 24 wherein said step of optimization comprises a step
2 of solving a linear programming problem.

26. The method of claim 25 wherein said step of solving a linear programming
2 problem includes a step of extremizing an objective function, said objective

function being $\sum_{i=1}^m c_i \mu_i$, wherein μ_i is a set of m market surpluses defined by

T0670 4 $\left[-\sum_{j=1}^n z_{ij}x_j \quad \forall i \in \{1, \dots, m\}, \text{ wherein } m \text{ is a number of assets to be traded and} \right]$

5 said z_{ij} are said set of proportions of each asset to be traded, a number " j "
6 corresponding to bundle trade number of said plurality of bundle trades, and
7 wherein said x are given by a solution of said linear programming problem, each
8 said x_j being an allocation value corresponding to bundle trade number " j ", and
9 each said c_i is preselected constant.

1 35. The data processing system of claim 34 wherein said circuitry for matching
2 trades further comprises:

3 circuitry for selecting a set of numerical values, wherein said set of
4 numerical values has a same number of members as a number of said plurality of
5 entered bundled trades, said set of numerical values forming a set of allocation
6 values; and

7 circuitry for multiplying each proportion of asset to be traded by a one of
8 each numerical value of said set of numerical values, said step of multiplying
9 being performed for each bundled trade, thereby forming a set of weighted
10 proportions of assets to be traded, said set having a number of weighted
11 proportions equal to a number of said assets to be traded.

34 36. The data processing system of claim ~~35~~ further comprising circuitry for
1 forming a set of transaction allocations, said circuitry for forming a set of
2 transaction allocations further comprising:
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4 for each portfolio constraint associated with a particular market participant,
5 circuitry for forming an allocation limit, said circuitry for forming an allocation
6 limit associated with said particular market participant comprising:

7 circuitry for multiplying each said portfolio weight by said
8 allocation value corresponding to said associated trade bundle;

9 circuitry for summing each product formed by said multiplying
10 circuitry; and

11 circuitry for dividing said portfolio limit by a sum formed by said
12 summing circuitry;

13 circuitry for selecting a smallest allocation limit from a set of allocation
14 limits having members including allocation limits corresponding to each market
15 participant in a matched trade;

16 for each bundle having a nonzero allocation value, circuitry for dividing
17 each bundle size by said nonzero allocation value, thereby forming a set of
18 allocation ratios;

19 circuitry for finding a smallest allocation ratio of said set of allocation
20 ratios;

21 circuitry for selecting a smaller value of said smallest allocation ratio and
22 said smallest allocation limit, thereby forming an allocation factor; and

23 circuitry for multiplying each allocation value of said set of allocation
24 values by said allocation factor, thereby forming a transaction allocation
25 corresponding to each bundled trade of said plurality of bundled trades.

1 39. The program product operable for storage in a computer readable medium
2 of claim 38 wherein said programming for matching trades further comprises:

3 programming for selecting a set of numerical values, wherein said set of
4 numerical values has a same number of members as a number of said plurality of
5 entered bundled trades, said set of numerical values forming a set of allocation
6 values; and

7 programming for multiplying each proportion of asset to be traded by a one
8 of each numerical value of said set of numerical values, said step of multiplying
9 being performed for each bundled trade, thereby forming a set of weighted
10 proportions of assets to be traded, said set having a number of weighted
11 proportions equal to a number of said assets to be traded.

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1 40. The program product operable for storage in a computer readable medium
2 of claim 39 further comprising programming for forming a set of transaction
3 allocations, said programming for forming a set of transaction allocations further
4 comprising:

5 for each portfolio constraint associated with a particular market participant,
6 programming for forming an allocation limit, said programming for forming an
7 allocation limit associated with said particular market participant comprising:

8 programming for multiplying each said portfolio weight by said
9 allocation value corresponding to said associated trade bundle;

10 programming for summing each product formed by said multiplying
11 circuitry; and

12 programming for dividing said portfolio limit by a sum formed by
13 said summing circuitry;

14 programming for selecting a smallest allocation limit from a set of
15 allocation limits having members including allocation limits corresponding to each
16 market participant in a matched trade;

17 for each bundle having a nonzero allocation value, programming for
18 dividing each bundle size by said nonzero allocation value, thereby forming a set
19 of allocation ratios;

20 programming for finding a smallest allocation ratio of said set of allocation
21 ratios;

22 programming for selecting a smaller value of said smallest allocation ratio
23 and said smallest allocation limit, thereby forming an allocation factor; and

24 programming for multiplying each allocation value of said set of allocation
25 values by said allocation factor, thereby forming a transaction allocation
26 corresponding to each bundled trade of said plurality of bundled trades.

8 performed for each bundled trade, thereby forming a set of weighted proportions of
9 assets to be traded, said set having a number of weighted proportions equal to a
10 number of said assets to be traded.

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1 43. The method of claim *42* wherein said step of matching trades further
2 comprises a step of forming a set of transaction allocations, said step of forming a
3 set of transaction allocations further comprising the steps of:

4 for each portfolio constraint associated with a particular market participant,
5 forming an allocation limit, said step of forming an allocation limit associated with
6 said particular market participant comprising the steps of:

7 multiplying each said portfolio weight by said allocation value
8 corresponding to said associated trade bundle;

9 summing each product formed by said multiplying step; and

10 dividing said portfolio limit by a sum formed by said summing step;

11 selecting a smallest allocation limit from a set of allocation limits having
12 members including allocation limits corresponding to each market participant in a
13 matched trade;

14 for each bundle having a nonzero allocation value, dividing each bundle
15 size by said nonzero allocation value, thereby forming a set of allocation ratios;

16 finding a smallest allocation ratio of said set of allocation ratios;

17 selecting a smaller value of said smallest allocation ratio and said smallest
18 allocation limit, thereby forming an allocation factor; and

19 multiplying each allocation value of said set of allocation values by said
20 allocation factor, thereby forming a transaction allocation corresponding to each
21 bundled trade of said plurality of bundled trades.

40 39
1 44. The method of claim 43 further comprising the steps of:
2 for each said bundled trade, reducing said bundle size value by a
3 corresponding transaction allocation; and
4 for each portfolio limit associated with said matched trade, reducing said
5 each portfolio limit by a sum formed by summing a set of products of
6 corresponding portfolio weights multiplied by transaction volumes, said transaction
7 volumes corresponding to bundles associated with said each portfolio limit
8 associated with said matched trade.

41 40
1 45. The method of claim 44 further comprising the step of negating each of
2 said weighted proportions of said set of weighted proportions thereby forming a set
3 of market surpluses, each market surplus of said set of market surpluses being a
4 market surplus corresponding to each of said assets to be traded.

42 41
1 46. The method of claim 45 further comprising the step of redistributing each
2 market surplus of said set of market surpluses.

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1 47. The method of claim 46 wherein the step of redistributing each market
2 surplus of said set of market surpluses further comprises the steps of:

3 selecting a first set of redistribution values, said first set of redistribution
4 values including a plurality of redistribution values, wherein each value
5 corresponds with an asset to be traded, a number of said values being equal to a
6 number of assets to be traded;

7 selecting a first set of redistribution values, said first set of redistribution
8 values including a plurality of redistribution values, wherein each value
9 corresponds with an asset to be traded, a number of said values being equal to a
10 number of assets to be traded;

11 selecting a plurality of second sets of redistribution values, said plurality of
12 second sets having a number of sets equal to a number of entered bundled trades,
13 and wherein each value in each second set corresponds with an asset to be traded,
14 a number of said values being equal to a number of assets to be traded, and
15 wherein a sum of all redistribution values, from said first set and from said
16 plurality of second sets, corresponding with each asset has a value of one;

17 multiplying each redistribution value in said first set by each market surplus
18 of its corresponding asset, thereby forming a first set of surplus redistribution
19 values;

20 multiplying each redistribution value in each second set by each market
21 surplus of its corresponding asset, thereby forming a plurality of second sets of
22 surplus redistribution values each said redistribution value corresponding to an

23 asset to be traded, and each set of said plurality of second sets of surplus
24 redistribution values corresponding with an asset bundle;

25 multiplying each surplus redistribution value in said first set of surplus
26 redistribution values by said allocation factor, thereby forming a set of first
27 transaction redistributions, said first transaction redistributions being retained by a
28 market maker;

29 multiplying each surplus redistribution value in each set of said plurality of
30 second sets of redistribution values by said allocation factor, thereby forming a
31 plurality of sets of second transaction redistributions, each of said plurality of sets
32 second transaction redistributions corresponding with an entered bundled trade; and

33 adding each second surplus redistribution value to its corresponding
34 transaction allocation in its corresponding asset bundle.

1 27. A data processing system for trading asset bundles comprising:
2 circuitry for entering a plurality of bundled trades entering a plurality of
3 bundled trades, each of said plurality of bundled trades comprising:
4 a plurality of assets to be traded; *A*
5 a bundle size value;
6 a set of proportions of each asset of plurality of assets to be traded
7 in units of said bundle size value; and
8 one or more portfolio constraints, each of said one or more portfolio
9 constraints including:
10 a set of portfolio weights; and
11 a portfolio limit, and wherein each said portfolio constraint is
12 associated with a set of bundled trades and a market participant corresponding to
13 said set of bundled trades; and
14 circuitry for matching bundled trades among said plurality of bundled
15 trades.

1 28. The data processing system of claim 27 wherein said circuitry for entering
2 bundled trades includes circuitry for entering trades using distributed processing
3 over a network.
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1 29. The data processing system of claim 27 wherein said circuitry for matching
2 bundled trades further comprises circuitry for reporting matched trade data using
3 distributed processing over a network.

1 30. The data processing system of claim 27 wherein said circuitry for entering
2 bundled trades includes circuitry executing an asynchronous thread for entering
3 bundled trades.

1 31. The data processing system of claim 27 wherein said circuitry for matching
2 bundled trades includes circuitry executing an asynchronous thread for matching
3 bundled trades.

1 32. The data processing system of claim 27 wherein said circuitry for matching
2 trades further comprises circuitry for allocating an amount of each bundle to be
3 traded among said plurality of bundles.

1 33. The data processing system of claim 27 wherein each bundled trade
2 includes a bundle size value.

1 34. The data processing system of claim 27 wherein each bundled trade
2 includes a set of proportions of each asset of said plurality of assets to be traded in
3 units of said bundle size value.

1 37. A program product operable for storage in a computer readable medium,
2 said program product for bundled trading of assets comprising:
3 programming for entering a plurality of bundled trades entering a plurality
4 of bundled trades, each of said plurality of bundled trades comprising:
5 a plurality of assets to be traded;
6 a bundle size value; *A*
7 a set of proportions of each asset of plurality of assets to be traded
8 in units of said bundle size value; and
9 one or more portfolio constraints, each of said one or more portfolio
10 constraints including:
11 a set of portfolio weights; and
12 a portfolio limit, and wherein each said portfolio constraint is
13 associated with a set of bundled trades and a market participant corresponding to
14 said set of bundled trades; and
15 programming for matching bundled trades among said plurality of bundled
16 trades.

1 38. The program product operable for storage in a computer readable medium
2 of claim 37 wherein each bundled trade includes a set of proportions of each asset
3 of said plurality of assets to be traded in units of said bundle size value.
John K. Ay

1 41. A method of asset trading comprising the steps of:
2 a method of asset trading comprising the steps of:
3 entering a bundled trade, said bundled trade comprising:
4 a plurality of assets to be traded;
5 a bundle size value; *A*
6 a set of proportions of each asset of plurality of assets to be traded
7 in units of said bundle size value; and
8 one or more portfolio constraints, each of said one or more portfolio
9 constraints including:
10 a set of portfolio weights; and
11 a portfolio limit, and wherein each said portfolio constraint is
12 associated with a set of bundled trades and a market participant corresponding to
13 said set of bundled trades; and
14 matching trades among a plurality of bundled trades.

1 42. The method of claim 41 wherein said step of matching trades further
2 comprises the steps of:
3 selecting a set of numerical values, wherein said set of numerical values has
4 a same number of members as a number of said plurality of entered bundled
5 trades, said set of numerical values forming a set of allocation values; and
6 multiplying each proportion of asset to be traded by a one of each
7 numerical value of said set of numerical values, said step of multiplying being